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Sequence Listing was accepted.

See attached Validation Report.

If you need help call the Patent Electronic Business Center at (866)  
217-9197 (toll free).

Reviewer: Anne Corrigan

Timestamp: [year=2008; month=8; day=6; hr=15; min=6; sec=18; ms=991; ]

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Application No: 10565595 Version No: 1.0

Input Set:

Output Set:

Started: 2008-06-30 13:47:05.063  
Finished: 2008-06-30 13:47:06.376  
Elapsed: 0 hr(s) 0 min(s) 1 sec(s) 313 ms  
Total Warnings: 9  
Total Errors: 5  
No. of SeqIDs Defined: 9  
Actual SeqID Count: 9

Error code	Error Description
W 213	Artificial or Unknown found in <213> in SEQ ID (1)
W 213	Artificial or Unknown found in <213> in SEQ ID (2)
W 213	Artificial or Unknown found in <213> in SEQ ID (3)
W 213	Artificial or Unknown found in <213> in SEQ ID (4)
W 213	Artificial or Unknown found in <213> in SEQ ID (5)
E 257	Invalid sequence data feature in <221> in SEQ ID (5)
E 257	Invalid sequence data feature in <221> in SEQ ID (5)
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W 213	Artificial or Unknown found in <213> in SEQ ID (6)
W 213	Artificial or Unknown found in <213> in SEQ ID (7)
W 213	Artificial or Unknown found in <213> in SEQ ID (8)
W 213	Artificial or Unknown found in <213> in SEQ ID (9)

# SEQUENCE LISTING

<110> ARAKAWA, TAKESHI  
KIKUKAWA, MASANAO  
SHIMABUKURO, ISAO  
TADANO, MASAYUKI  
MATSUMOTO, YASUNOBU  
TSUJI, NAOTOSHI  
SATO, YOSHIYA

<120> HETERO TYPE PENTAMER RECOMBINANT VACCINE

<130> 285137US0XPCT

<140> 10565595

<141> 2008-06-30

<150> PCT/JP04/10459

<151> 2004-07-23

<150> JP 2003-279156

<151> 2003-07-24

<150> JP 2003-412053

<151> 2003-12-10

<160> 9

<170> PatentIn Ver. 3.3

<210> 1

<211> 293

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
polypeptide

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Ala Tyr Ala His Gly Thr Pro Gln Asn Ile Thr Asp Leu Cys Ala Glu  
20 25 30

Tyr His Asn Thr Gln Ile His Thr Leu Asn Asp Lys Ile Phe Ser Tyr  
35 40 45

Thr Glu Ser Leu Ala Gly Lys Arg Glu Met Ala Ile Ile Thr Phe Lys  
50 55 60

Asn Gly Ala Thr Phe Gln Val Glu Val Pro Gly Ser Gln His Ile Asp  
65 70 75 80

Ser Gln Lys Lys Ala Ile Glu Arg Met Lys Asp Thr Leu Arg Ile Ala

85

90

95

Tyr Leu Thr Glu Ala Lys Val Glu Lys Leu Cys Val Trp Asn Asn Lys  
 100 105 110

Thr Pro His Ala Ile Ala Ala Ile Ser Met Ala Asn Gly Pro Gly Pro  
 115 120 125

Glu Phe Thr Tyr Gly Met Cys Thr Glu Lys Phe Ser Phe Ala Lys Asn  
 130 135 140

Pro Ala Asp Thr Gly His Gly Thr Val Val Ile Glu Leu Ser Tyr Ser  
 145 150 155 160

Gly Ser Asp Gly Pro Cys Lys Ile Pro Ile Val Ser Val Ala Ser Leu  
 165 170 175

Asn Asp Met Thr Pro Val Gly Arg Leu Val Thr Val Asn Pro Phe Val  
 180 185 190

Ala Thr Ser Ser Ala Asn Ser Lys Val Leu Val Glu Met Glu Pro Pro  
 195 200 205

Phe Gly Asp Ser Tyr Ile Val Val Gly Arg Gly Asp Lys Gln Ile Asn  
 210 215 220

His His Trp His Lys Ala Gly Ser Thr Leu Gly Lys Ala Phe Ser Thr  
 225 230 235 240

Thr Leu Lys Gly Ala Gln Arg Leu Ala Ala Leu Gly Asp Thr Ala Trp  
 245 250 255

Asp Phe Gly Ser Ile Gly Gly Val Phe Asn Ser Ile Gly Lys Ala Val  
 260 265 270

His Gln Val Phe Gly Gly Ala Phe Arg Thr Leu Phe Gly Gly Met Ser  
 275 280 285

Trp Ile Thr Gln Gly  
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&lt;210&gt; 2

&lt;211&gt; 882

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

<223> Description of Artificial Sequence: Synthetic  
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&lt;400&gt; 2

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 ctaaagtata agatattttc gtatacagaa tctctagctg gaaaaagaga gatggctatc 180  
 attactttta agaatggtgc aacttttcaa gtagaagtac caggtagtca acatatagat 240  
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gtgctggtcg agatggaacc ccccttcgga gactcctaca tcgtagttgg acggggagac 660
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<210> 3

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<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic  
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<210> 4

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<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
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<210> 5

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<212> PRT

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
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<220>

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<222> (1)

<223> B subunit monomer residue

<220>

<221> MOD\_RES

<222> (2)..(5)

<223> Any amino acid or not present

<220>  
 <221> MOD\_RES  
 <222> (6)..(13)  
 <223> This region may encompass 2 to 4  
       'Gly-Pro' repeating units

<220>  
 <221> MOD\_RES  
 <222> (14)..(17)  
 <223> Any amino acid or not present

<220>  
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 <222> (18)  
 <223> Any amino acid

<220>  
 <223> see specification as filed for detailed description of  
       substitutions and preferred embodiments

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 Xaa Xaa

<210> 6  
 <211> 4  
 <212> PRT  
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<220>  
 <223> Description of Artificial Sequence: Synthetic  
       peptide

<400> 6  
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       1

<210> 7  
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<223> Description of Artificial Sequence: Synthetic  
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12

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<211> 12

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: Synthetic  
oligonucleotide

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12